EG&G ROCKY FLATS

INTEROFFICE CORRESPONDENCE

DATE: September 26, 1994

TO: Distribution

FROM: V. P. Valencia, Solar Pond Projects, Bldg. 080, X6970

SUBJECT: DOCUMENT REVIEW: FIELD CHANGE NUMBER 1994-005 TO THE ACCELERATED SLUDGE REMOVAL (ASRP) HEALTH AND SAFETY PLAN (HASP) - VPV-013-94

DOE Order: 5480.19

Action: Parallel review required

Attached is a copy of the field changes to the ASRP HASP. Please review these changes to the ASRP HASP and provide comments on the attached Review Comment Sheet(s). One compiled set of comments should be returned for each organization with an identified point of contact for comment resolution. Please direct your comments to issues which will add value to this document such as technical inaccuracies, missing information, and erroneous responsibilities. Comments which offer solution will aid in the resolution of comments and prompt issuance of this field change for use.

Because this field change is vital to the ASRP, we request comments or concurrence be provided as soon as possible but not later than close of business on September 27, 1994, to be considered. Please return your comments to Vivian P. Valencia, Building 080, Fax #8768. Additional copies may be obtained from Vivian P. Valencia.

jlb

Attachment:
As Stated

Distribution

K. D. Anderson
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cc:
D. A. Ringle w/o Attach.
File
ERPD Records (2)

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REVIEW COMMENT SHEET

Time Spent on Review: _____ hrs.

Return to:

8768	Vivian P. Valencia	6970	080
FAX	Name	Ext.	Location

If questions on content, please call the SME:

Vivian P. Valencia	6970
Name	Ext.

Page ____of ____

Please review the attached procedure:

Field Change No.1994-005	0	A	Accelerated Sludge Removal Project Health&Safety Plan
Number	Rev.	Draft	Title

Comment Due Date: 09/27/94

☐ Internal Review ☒ Parallel Review ☐ Verification ☐ Validation ☐ Revalidation

General (G) comments require resolution but do not require resolution acceptance. Mandatory (M) comments require resolution and resolution acceptance. 1-A03-PPG-004 provides complete definitions of General and Mandatory comments.

TYPE G or M	PAGE	SECTION OR LINE #	COMMENT	DISPOSITION	Disposition Accepted INIT/DATE

POC/Reviewer: (Comments not signed by POC/Reviewer will be considered unofficial and not subject to resolution)

☐ No Comments

☐ This procedure revision has no impact or relevance to our discipline or organization and we waive need to concur.

Name	Signature	
Ext./Pager/Fax	Bldg./Dept./AGM	Date

Resolutions Accepted

Initials	Date

NOTE: These reviews are completed by qualified reviewers in accordance with 1-A03-PPG-004 in concert with 1-A01-PPG-001 and 1-A02-PPG-003.

RF-47947 (5/93)

REVIEW COMMENT SHEET (continued)

Page ___ of ___

Review comments for document: FCN-1994-005 (Number) 0 (Rev.) A (Draft)

TYPE G or M	PAGE	SECTION OR LINE #	COMMENT	DISPOSITION	Disposition Accepted INIT/DATE

POC/Reviewer: (Comments not signed by the POC/Reviewer will be considered as unofficial comments)

Name _____ Signature _____ Date _____

Resolutions Accepted

Initials _____ Date _____

RF-47947A (5/93)

EG&G HASP FIELD CHANGE FORM

Field Change Number: FCN-1994-005 Effective Date: _____

Requested by: VIVIAN P. VALENCIA (Print Name) Vivian P. Valencia / 9-22-1994 Signature/Date

Pen and Ink changes to be made to the HASP to alert the reader of this change:
Additional tasks have been added. Redline changes will be denoted by revision bars in the left hand margin.

Reason for the change to be incorporated into the HASP:
Additional tasks to be evaluated: Removal of excess brine from the vacuum tanker; 207C salt sludge transfer operations

Text of change to be incorporated:
Revision bars will denote changes. Page numbers may change due to additional information. Added information:

- Removal of Excess Brine from the Vacuum Tanker (Task 22)
- 207C Salt Sludge Transfer Operations (Task 23)
- Task 17 has been modified to incorporate steps for unclogging hose and for additional steps performed by vacuum tanker operators.

APPROVALS:

_____
H&S Liaison Officer/Date

_____
ER H&S Officer/Date

_____
Unit Manager/Date

AS NEEDED CONCURRENCE:

_____
Occupational Safety

_____
Radiological Engineering

_____
Industrial Hygiene

_____
Occupational Health

_____
Fire Protection

_____
Radiological Operations

dl/np

1.0 GENERAL INFORMATION

OU4 is comprised of five solar evaporation ponds: 207A, 207B series (north, center, south), and 207C which were constructed for treatment and storage of process water from industrial operations. The process water contained treated acidic wastes, industrial liquid wastes (e.g., metal plating solutions), and low level radioactive wastes. In addition to the five solar evaporation ponds, the Building 788 Clarifier was constructed to process pond sludge from the ponds into the low-level mixed waste form of pondcrete.

The Accelerated Sludge Removal Project (ASRP) consolidated pond sludge from the 207A pond and the 207B pond series into the 207B South pond in order to begin removal of sludge from the ponds. Pond sludge must be removed from the ponds in order to comply with the Interagency Agreement between the Department of Energy (DOE), the Environmental Protection Agency (EPA) and the Colorado Department of Health (CDH). The following activities are to be performed to complete the ASRP:

- 207B Pond Sludge Transfer
- 207C Pond Sludge Transfer
- Building 788 Clarifier Sludge Transfer
- Salt Slurry/Milling Operation of 207C Pond
- Decant Operations
- Salt Buster Rinse Down
- 207C Pond Final Rinse Down and Sludge Removal
- 207B Pond Sludge Tank to Tank Transfer Operations
- 207B Pond Sand and Rock Removal
- Transferring Excess Sludge and Fluids from Vacuum Tanker to Metal Crates
- 207C Salt Sludge Transfer Operations

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All sludge transfer operations are to be performed by approved, trained and qualified personnel. Sludge is loaded into a vacuum tanker and then transported to the 750 Pad to be unloaded into 10,000 gallon High Density Polyethylene (HDPE) tanks for temporary storage. As sludge settles in the tanks, water collects on top of the sludge. In order to conserve space and tanks on the 750 Pad, the excess water is pumped into a designated "decant" storage tank or into metal crates. The excess water is then pumped into an approved cargo tanker for transfer to Building 374.

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When pumping 207C pond sludge, salt builds up on the bottom of the vacuum tanker. When this occurs, the vacuum tanker is opened and emptied of salt sludge. Vac-n-Jet operators will empty the salt sludge into a metal crate. Process Specialists will then transfer the salt sludge to a tank using a hydrogrind pump with transfer hoses.

FCN-1994-004

Once the excess water is pumped out, the sludge will be consolidated into another tank. The vacuum tanker will be used to transfer the contents of the partially filled tank into another partially filled tank. Transferring sludge from a partially filled tank will allow for additional tank storage. Decanting is only planned to be performed on the 207B Pond sludge. The sand and rock that remains in 207B Pond after final rinse down operations will be packaged in half-crates and stored on the 750 Pad.

The salt slurry operation will be performed by an approved, trained and qualified subcontractor. The "Salt Buster" is a rough terrain four wheel drive forklift tractor. It will be used to grind the crystalline salt in 207C Pond to allow for transport of the 207C Pond sludge into the vacuum tanker. At periodic intervals and as required for maintenance the "salt buster" will be rinsed off to prevent sludge particulates from becoming airborne.

Personnel will not physically enter 207C pond **except** under the following conditions:

- During final rinse down operations after bulk salt removal is complete
- During emergency situations
- During a non-emergency (i.e. breakdown of the salt buster), if the salt buster operator must leave the vehicle and the retrieval boat will not float in the pond

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1.2 COMPANION DOCUMENTS

The documents listed in Table 1-2 must be available for use with this HASP.

TABLE 1-2

Document (check all that apply)	Location
(X) Health and Safety Practices Manual Volumes 1 & 2	T-750 G, T-788
(X) Hazardous Waste Requirements Manual (HWRM)	T-750 G, T-788
(X) Training Users Manual (TUM) Applicable Sections:	T-893 B
(X) WSRIC	T-750 G, T-788, Bldg. 788, Tent # 5
(X) WEMS	T-893 B
(X) OPS. ORDER: 788-02, 788-03, 788-04, 788-05, 788-07, 788-08, 788-09, 788-11, 788-12, WSD-009	INTERLOCKEN, T-750 G, T-788
(X) IWCP # TD-073856 Decon of Vacuum Truck	T-750 G
(X) IWCP # TD-075106 Removal of Cement Silos and Steel Framing at Building 788	T-788
(X) Work Plan for Removal Of Water And Sludge From 207B South Pond	T-750 G, INTERLOCKEN/SOLAR POND PROJECT FILES
(X) Work Plan for Salt Slurry Operation of 207C Pond	
(X) JSA: Pond Sludge Removal	Sec. 3.6
(X) Other: Gen Equip. Decon FO.03	INTERLOCKEN, T-788 (During decon operations)
(X) Other: Heavy Equipment Decon FO.04	INTERLOCKEN, T-788 (During decon operations)
(X) Other: Decon Facility Ops. FO.12	INTERLOCKEN, T-788 (During decon operations)
(X) Other: ASRP Emergency Preparedness Plan	INTERLOCKEN, T-750G
(X) Other: 4-XXX-750SPILL	INTERLOCKEN, T-788, T-750G
(X) Other: 4-XXX-DECANT	INTERLOCKEN, T-788, T-750G
(X) Other: Walsh Procedure: Removing Excess Brine from the Vaccum Tanker	INTERLOCKEN, T-788, T-750G

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JSA = Job Safety Analysis
SOP = Safe Operating Practice
WEMS = Waste Environmental Management System (for the Waste Isolation Pilot Plant waste acceptance criteria)
WSRIC = Waste Stream Residue Identification and Characterization

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2.0 HEALTH AND SAFETY HAZARD ASSESSMENT

2.1 TASK ANALYSIS

Table 2-1 assigns task numbers to each discrete task at this (these) HWA(s). Tasks are broken down into steps.

Tasks 1 through 3 describe the 207B South Pond Sludge Transfer Operation
Task 4 describes the decontamination of the Vacuum Trucks.
Tasks 5 through 8 describe the Decanting Operation.
Tasks 9 through 11 describe the Building 788 Clarifier Pond Sludge Transfer Operation
Tasks 12 through 17 describe the 207C Pond Sludge Transfer Operation
Task 18 describes the removal of the cement silos, steel framing and equipment located around the ponds
Task 19 describes the removal of sand and rock from the 207B Pond
Task 20 describes the transfer of sludge from tank to tank on the 750 Pad
Task 21 describes the final rinse down of 207C Pond
Task 22 describes the transfer of salt sludge from the vacuum tanker into metal crates on the 750 Pad
Task 23 describes the transfer of salt sludge from the metal crate into tanks on the 750 Pad

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2.1.1 REQUIRED DOCUMENTS

- JSA Section 3.6
- Operations Order 788-02 (207B South Pond Sludge Transfer Operations)
- Operations Order 788-03 (Decant Operations)
- Operations Order 788-04 (Waste Solidification Decontamination Operations)
- Operations Order 788-05 (207B South Pond Sludge Washdown)
- Operations Order 788-07 (Salt Buster Rinse Down)
- Operations Order 788-08 (207C Pond Sludge Transfer Operations)
- Operations Order 788-09 (Building 788 Clarifier Pond Sludge Transfer Operations)
- Operations Order 788-11 (207B Pond Sludge Tank to Tank Transfer Operations)
- Operations Order 788-12 (207C Pond Final Rinse Down and Sludge Removal)
- Operations Order WSD-009 (207C Salt Sludge Transfer Operations)
- PA Decon Facility F-04 (General Equipment Decon)
- PA Decon Facility F-05 (Heavy Equipment Decon)
- PA Decon Facility F-012 (Decon Facility Operations)
- IWCP # TD-073856 (Decon of Vacuum Truck)
- IWCP # TD-075106 (Removal of Cement Silos and Steel Framing at Building 788)

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2.1.1 REQUIRED DOCUMENTS (continued)

- Work Plan For The Removal Of Water And Sludge From The 207B South Pond
- Work Plan for The Salt Slurry Operations of 207C Pond
- Walsh Operating Procedure: Removal of Excess Brine from the Vacuum Tanker

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TABLE 2-1 TASK ANALYSIS

NOTE

Tasks 1 through 3 describe the 207B South Pond Sludge Transfer Operation
Task 4 describes the decontamination of the Vacuum Trucks.
Tasks 5 through 8 describe the Decanting Operation.
Tasks 9 through 11 describe the Building 788 Clarifier Pond Sludge Transfer Operation
Tasks 12 through 17 describe the 207C Pond Sludge Transfer Operation
Task 18 describes the removal of the cement silos, steel framing and equipment located around the ponds
Task 19 describes the removal of sand and rock from the 207B Pond
Task 20 describes the transfer of sludge from tank to tank on the 750 Pad
Task 21 describes the final rinse down of 207C Pond
Task 22 describes the transfer of salt sludge from the vacuum tanker into metal crates on the 750 Pad
Task 23 describes the transfer of salt sludge from the metal crate into tanks on the 750 Pad

TASK #	TASK TITLE	SOP/OSA if applicable	TASK DESCRIPTION	TASK STEPS
1	207B Pond Sludge Transfer Equipment Preparation	JSA Sec 3.6 Ops. Order 788-02 Work Plan for Removal of Water and Sludge from 207B South Pond	Position the vacuum truck, necessary equipment and personnel by the 207B Pond.	1. Conduct a pre-evolution briefing 2. Obtain an RWP 3. Position the vacuum truck 4. Position the crane 5. Assemble the vacuum transfer hose and attach to the crane 6. Don PPE as specified in the RWP 7. Position the hose in the pond 8. Position personnel for sludge removal

WSRIC PROCESS NUMBER (if applicable): 207POND-1-1
RCRA UNIT NUMBER(S) (if applicable) OR LOCATION: 207B South Solar Pond

TASK #	TASK TITLE	SOP/OSA	TASK DESCRIPTION	TASK STEPS
2	207B Pond Sludge Vacuum Tanker Filling	JSA Sec. 3.6 Ops. Order 788-02, 04 Work Plan for Removal of Water and Sludge from 207B South Pond	Fill the vacuum truck with 207B pond sludge.	1. Startup the truck 2. Signal the crane operator to position the hose in the sludge 3. Move the hose through the sludge 4. Fill the vacuum truck 5. Remove the hose from the sludge and drain 6. Drain the hose, disconnect the hose from the truck, and cap the inlet 7. Request the RCT to survey the truck before relocating 8. Cleanup spills per 788-04

WSRIC PROCESS NUMBER (if applicable): 207POND-1-1
RCRA UNIT NUMBER(S) (if applicable) OR LOCATION: 207B South Solar Pond

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TASK #	TASK TITLE	SOP/OSA	TASK DESCRIPTION	TASK STEPS
16	207C Pond Sludge Vacuum Tanker Filling	JSA Sec. 3.6 Ops. Order 788-08, 04 Work Plan for Salt Slurry Operation of 207C Pond	Fill vacuum truck with 207C Pond sludge.	1. Startup truck 2. Lower hose into 207C Pond 3. Fill truck 4. Request salt buster operator to push salt brine to low end of the pond with the "salt buster" with additional equipment i.e. squeegee/rotary brush 5. Remove hose from 207C Pond and drain 6. Drain hose, disconnect hose from truck, and cap inlet 7. Request the RCT to survey the truck before relocating 8. Cleanup spills per 788-04

WSRIC PROCESS NUMBER (if applicable): 207POND-1-17

RCRA UNIT NUMBER(S) (if applicable) OR LOCATION: 207C Pond

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TASK #	TASK TITLE	SOP/OSA	TASK DESCRIPTION	TASK STEPS
17	Vacuum Truck Unloading at the 750 Pad	JSA Sec. 3.6 Ops. Order 788-08, 04 Work Plan for Salt Slurry Operation of 207C Pond	Off-load sludge to storage tanks located in tents #3, #4, and #6	1. Drive truck to 750 pad tents #3,#4, and #6 2. Obtain an RWP 3. Don PPE as specified in the RWP 4. Hookup exhaust line to vacuum truck 5. Hookup transfer line 6. Hookup hose to designated tank 7. Start truck and off-load sludge 8. As necessary, the vacuum tanker operator shall elevate the tanker bed and install the PVC sleeve. 9. Fill tank 10. **IF** the transfer hose becomes clogged, **THEN** the vacuum tanker operator shall: • Stop the hydraulic pump

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TASK #	TASK TITLE	SOP/OSA	TASK DESCRIPTION	TASK STEPS
17	Vacuum Truck Unloading at the 750 Pad	JSA Sec. 3.6 Ops. Order 788-08, 04 Work Plan for Salt Slurry Operation of 207C Pond	Off-load sludge to storage tanks located in tents #3, #4, and #6	**10. Continued** • Pull vacuum on the line • Reverse the hydraulic lines on the hydraulic pump • Turn on the hydraulic pump • Manipulate the hose to dislodge the clog • As necessary, operate the vacuum and hydraulic pump on the vacuum tanker to dislodge the clog • When the clog is removed normal operations may resume 11. While filling the tank, the vacuum tanker operator shall wash the interior of the vacuum tanker through the view port using the spray wand as necessary 12. When spray operation is complete the vacuum tanker operator shall shut off vacuum and elevate the vacuum tanker slightly to remove the PVC sleeve used for contamination control. 13. The vacuum tanker operator shall lower the tanker bed when fill operations are complete. 14. Vacuum tanker operator shall pull vacuum on the transfer hose to drain the hose. 15. Disconnect hose from tank 16. Disconnect hose from truck and cap 17. Connect the waterline from the spray washer to the tank and drain the spary washer line into the tank 18. Disconnect the waterline from the tank 19. Disconnect exhaust line 20. Request the RCT to survey the truck before relocating 21. Cleanup spills per 788-04

WSRIC PROCESS NUMBER (if applicable): 750PAD-2-2

RCRA UNIT NUMBER(S) (if applicable) OR LOCATION: RCRA Unit 25, 750 Pad

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TASK #	TASK TITLE	SOP/OSA if applicable	TASK DESCRIPTION	TASK STEPS
22	Removal of Excess Brine from the Vacuum Tanker	Walsh Procedure: Removal of Excess Brine from the Vacuum Tanker	Transfer salt sludge from the vacuum tanker into a metal crate.	1. Conduct pre-evolution briefing 2. Obtain RWP 3. Don PPE as specified in the RWP and Section 3.0 of the HASP. 4. Position truck on ramp 5. Position metal crate and plastic sheeting at drain area 6. Drain vacuum tanker into metal crate by opening valves on vacuum tanker 7. Close valves after vacuum tanker is drained, then apply a low vacumm and then finish draining the vacuum tanker 8. Open the vacuum tanker 9. Empty one third of the truck tank contents into the metal crate using hand tools to scrape and push material into the crate. Repeat as necessary 10. When the crate is full, close the vacuum tanker and empty the metal crate in accordance with OO-WSD-009. 11. Continue emptying vacuum tanker until the truck tank is empty 12. Close the vacuum tanker. 13. Disconnect and wipe down any equipment used to perform the operation 14. Decontaminate equipment per 788-04 15. Inspect area for drips and perform decontamination as necessary. 16. Reattach any equipment removed from the vacuum tanker. 17. Request the RCT to survey the area 18. As directed by supervision, return equipment to the designated storage area

WSRIC PROCESS NUMBER (if applicable): 750PAD-2-2

RCRA UNIT NUMBER(S) (if applicable) OR LOCATION: RCRA Unit 25, 750 Pad

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TASK #	TASK TITLE	SOP/OSA if applicable	TASK DESCRIPTION	TASK STEPS
23	207C Salt Sludge Transfer	Ops. Order WSD-009	Transfer salt sludge from the metal crate into a tank.	1. Conduct pre-evolution briefing 2. Obtain RWP 3. Don PPE as specified in the RWP and Section 3.0 of the HASP. 4. Set up hydrogrind pump with transfer hoses 5. Position ladders 6. Connect transfer hose to the ASRP tank 7. Position personnel 8. Connect and start hydrogrind pump 9. Slurry contents of metal crate as directed by supervision 10. Monitor metal crate and ASRP tank level 11. When the ASRP tank is full or metal crate is empty, Shut off hydrogrind pump and discontinue slurry operations 12. Drain transfer hose. 13. Disconnect hose from the ASRP tank 14. Decontaminate equipment per 788-04 15. Bag hoses 16. If applicable cover metal crate 17. Request the RCT to survey the area 18. As directed by supervision, return equipment to the designated storage area

WSRIC PROCESS NUMBER (if applicable): 750PAD-2-2

RCRA UNIT NUMBER(S) (if applicable) OR LOCATION: RCRA Unit 25, 750 Pad

Attach additional pages if necessary.

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NOTE

Tasks 1 through 3 describe the 207B South Pond Sludge Transfer Operation
Task 4 describes the decontamination of the Vacuum Trucks.
Tasks 5 through 8 describe the Decanting Operation.
Tasks 9 through 11 describe the Building 788 Clarifier Pond Sludge Transfer Operation
Tasks 12 through 17 describe the 207C Pond Sludge Transfer Operation
Task 18 describes the removal of the cement silos, steel framing and equipment located around the ponds.
Task 19 describes the removal of sand and rock from the 207B Pond
Task 20 describes the transfer of sludge from tank to tank on the 750 Pad
Task 21 describes the final rinse down of 207C Pond
Task 22 describes the transfer of salt sludge from the vacuum tanker into metal crates on the 750 Pad
Task 23 describes the transfer of salt sludge from the metal crate into tanks on the 750 Pad

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TABLE 2-2 HAZARD ANALYSIS AND CONTROL WORKSHEET BY TASK
Sections of Table 2-2 which are not applicable to this task should be left blank.

TASK #	TASK TITLE	HWA
1	207B Pond Sludge Transfer Equipment Preparation	Pond 207 B South

2-2.1 RADIOLOGICAL HAZARDS

Are radiological hazards fully described in (check all that apply): (X) WSRIC (X) OTHER: OPS. ORDER 00-788-02 (X) Work plan 207B pond

ISOTOPE PRESENT	% DAC	FIXED CONTAMINATION dpm/100 cm²	REMOVABLE CONTAMINATION dpm/100 cm²	DOSE RATE NEUTRON	DOSE RATE BETA/GAMMA
Plutonium	NO	UNKNOWN	UNKNOWN	NO	NO
Americium	NO	UNKNOWN	UNKNOWN	NO	NO
Uranium	NO	UNKNOWN	UNKNOWN	NO	NO

DAC = derived air concentration (hours)
dpm = disintegrations per minute
cm² = square centimeters
1 = anticipated contamination, 2 = measured concentrations

2-2.2 CHEMICAL HAZARDS

Are chemical hazards fully described in (check all that apply): (X) JSA (X) WEMS (X) WSRIC (X) OTHER: OPS. ORDER 00-788-02 (X) Work Plan 207B pond

Complete Appendix B, *then* mark all of the following which apply to this task:

Hazard Type	Are concentrations greater than 1/2 PEL* or 10% LEL expected in this task?	Job Duty	Routes of Exposure During Task Inhalation (I), Body Splash (B), Face Splash (F), Hands (H), Other - specify
( ) VOC's	( ) Likely ( ) Unlikely ( ) Unknown (X) N/A	Task 1	N/A
( ) Corrosives	( ) Likely ( ) Unlikely ( ) Unknown (X) N/A	Task 1	N/A
( ) Fire hazard	( ) Likely ( ) Unlikely ( ) Unknown (X) N/A	Task 1	N/A
( ) Carcinogens	( ) Likely ( ) Unlikely ( ) Unknown (X) N/A	Task 1	N/A

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TABLE 2-2 HAZARD ANALYSIS AND CONTROL WORKSHEET BY TASK
Sections of Table 2-2 which are not applicable to this task should be left blank.

TASK#	TASK TITLE	HWA
22	Removal of Excess Brine and Fluids from the Vacuum Tanker	RCRA Unit #25

2-2.1 RADIOLOGICAL HAZARDS

Are radiological hazards fully described in (check all that apply): (X) WSRIC (X) OTHER: WALSH PROCEDURE:Removal of Excess Brine and Fluids from the Vacuum Tanker

ISOTOPE PRESENT	% DAC	FIXED CONTAMINATION dpm/100 cm²	REMOVABLE CONTAMINATION dpm/100 cm²	DOSE RATE NEUTRON	DOSE RATE BETA/GAMMA
Plutonium	NO	UNKNOWN	UNKNOWN	NO	NO
Americium	NO	UNKNOWN	UNKNOWN	NO	NO
Uranium	NO	UNKNOWN	UNKNOWN	NO	NO

DAC = derived air concentration (hours)
dpm = disintegrations per minute
cm² = square centimeters
1 = anticipated contamination, 2 = measured concentrations

2-2.2 CHEMICAL HAZARDS

Are chemical hazards fully described in (check all that apply): (X) JSA (X) WEMS (X) WSRIC (X) OTHER: WALSH PROCEDURE:Removal of Excess Brine and Fluids from the Vacuum Tanker

Complete Appendix B, *then* mark all of the following which apply to this task:

Hazard Type	Are concentrations greater than 1/2 PEL* or 10% LEL expected in this task?	Job Duty	Routes of Exposure During Task Inhalation (I), Body Splash (B), Face Splash (F), Hands (H), Other - specify
(X) VOC's	( ) Likely (X) Unlikely ( ) Unknown	Task 22	I, B, F, H
(X) Corrosives	( ) Likely (X) Unlikely ( ) Unknown	Task 22	None expected
(X) Fire hazard	( ) Likely (X) Unlikely ( ) Unknown	Task 22	None expected from materials (sludge)
(X) Carcinogens	( ) Likely (X) Unlikely ( ) Unknown	Task 22	I, B, F, H
(X) Other Toxins	( ) Likely (X) Unlikely ( ) Unknown	Task 22	Metals, inorganics, -unlikely exposure

PEL = Permissible Exposure Limit * use Threshold Limit Value if more restrictive
LEL = Lower Explosive Limit
VOCs = Volatile Organic Compounds

2-2.3 BIOLOGICAL HAZARDS

Are biological hazards present during the task? (X) Yes ( ) No ( ) Unknown
If so, describe:Biological hazards may not be present, but the following should be considered: snakes, spiders and rodents
Controls: Survey surroundings prior to beginning work

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Confined space entries must comply with HSP 6.04 unless equally restrictive subcontractor plan is used.
List type/location of confined spaces associated with task #22: Removal of Excess Brine from the Vacuum Tanker

1. Inside the tank of the vacuum truck	**NOTE: Confined Space Permit is required prior to entry.**

2-2.5 PHYSICAL HAZARDS

Are the physical hazards of this task fully described in (check all that apply): ( ) Workplan ( ) SOP (X) JSA
(X) OTHER: OPS. Order 00-WSD-009

If not, check all that apply and complete the following:

POTENTIAL HAZARDS	HSP SECTION	CONTROL MEASURES
(X) Ladders Describe: Ladder used to access metal crate or truck tank	HSP 22.02	Ensure the ladder has been approved for its intended use by Industrial Safety per ANSI a 14.7-1991 sections 6 and 8.
(X) Heat Stress (X) Cold Stress Describe: Working outdoors	N/A	Warm fluids, sufficient clothing, frequent breaks and proper training on how to identify hypothermia to prevent cold stress. Take adequate breaks and drink plenty of fluids to prevent heat stress. Buddy system. Industrial Hygiene Representative will hold safety meetings to discuss heat stress symptoms and preventative measures.
(X) Noise Describe: Equipment noise	HSP 7.06	Proper hearing protection in high noise areas per direction of Industrial Hygiene (IH). IH will monitor pumping operations and designate hearing protection if needed.
(X) Other: Confined Space Entry Describe: Inside the tank of the vacuum truck	HSP 6.04	Ensure all requirements are met prior to entering the designated confined space, and all personnel are trained per the IWCP work package.
(X) Electrical Hazards Describe: Wet locations	HSP 15.00	Ensure GFCI protection in wet locations per HSP 15.00 Sec. 10.14.
(X) Other: Biological Describe: Snakes, Spiders, Rodents	N/A	Ensure proper foot wear and company issued clothing, leather gloves will be utilized when moving equipment and associated materials

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TABLE 2-2 HAZARD ANALYSIS AND CONTROL WORKSHEET BY TASK
Sections of Table 2-2 which are not applicable to this task should be left blank.

TASK#	TASK TITLE	HWA
23	207C Salt Sludge Transfer Operations	RCRA Unit #25

2-2.1 RADIOLOGICAL HAZARDS

Are radiological hazards fully described in (check all that apply): (X) WSRIC (X) OTHER: OPS. ORDER 00-WSD-009

ISOTOPE PRESENT	% DAC	FIXED CONTAMINATION dpm/100 cm²	REMOVABLE CONTAMINATION dpm/100 cm²	DOSE RATE NEUTRON	DOSE RATE BETA/GAMMA
Plutonium	NO	UNKNOWN	UNKNOWN	NO	NO
Americium	NO	UNKNOWN	UNKNOWN	NO	NO
Uranium	NO	UNKNOWN	UNKNOWN	NO	NO

DAC = derived air concentration (hours)
dpm = disintegrations per minute
cm² = square centimeters
1 = anticipated contamination, 2 = measured concentrations

2-2.2 CHEMICAL HAZARDS

Are chemical hazards fully described in (check all that apply): (X) JSA (X) WEMS (X) WSRIC
(X) OTHER: OPS. Order 00-WSD-009

Complete Appendix B, *then* mark all of the following which apply to this task:

Hazard Type	Are concentrations greater than 1/2 PEL* or 10% LEL expected in this task?	Job Duty	Routes of Exposure During Task Inhalation (I), Body Splash (B), Face Splash (F), Hands (H), Other - specify
(X) VOC's	( ) Likely (X) Unlikely ( ) Unknown	Task 23	I, B, F, H
(X) Corrosives	( ) Likely (X) Unlikely ( ) Unknown	Task 23	None expected
(X) Fire hazard	( ) Likely (X) Unlikely ( ) Unknown	Task 23	None expected from materials (sludge)
(X) Carcinogens	( ) Likely (X) Unlikely ( ) Unknown	Task 23	I, B, F, H
(X) Other Toxins	( ) Likely (X) Unlikely ( ) Unknown	Task 23	Metals, inorganics, -unlikely exposure

PEL = Permissible Exposure Limit * use Threshold Limit Value if more restrictive
LEL = Lower Explosive Limit
VOCs = Volatile Organic Compounds

2-2.3 BIOLOGICAL HAZARDS

Are biological hazards present during the task? (X) Yes ( ) No ( ) Unknown
If so, describe: Biological hazards may not be present, but the following should be considered: snakes, spiders and rodents
Controls: Survey surroundings prior to beginning work

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2-2.4 CONFINED SPACES

No confined spaces are present during performance of Task 23.

2-2.5 PHYSICAL HAZARDS

Are the physical hazards of this task fully described in (check all that apply): ( ) Workplan ( ) SOP (X) JSA (X) OTHER: Ops. Order OO-WSD-009

If not, check all that apply and complete the following:

POTENTIAL HAZARDS	HSP SECTION	CONTROL MEASURES
(X) Ladders Describe: Ladder used to access ASRP tank	HSP 22.02	Ensure the ladder has been approved for its intended use by Industrial Safety per ANSI a 14.7-1991 sections 6 and 8.
(X) Heat Stress (X) Cold Stress Describe: Working outdoors	N/A	Warm fluids, sufficient clothing, frequent breaks and proper training on how to identify hypothermia to prevent cold stress. Take adequate breaks and drink plenty of fluids to prevent heat stress. Buddy system. Industrial Hygiene Representative will hold safety meetings to discuss heat stress symptoms and preventative measures.
(X) Noise Describe: Equipment noise	HSP 7.06	Proper hearing protection in high noise areas per direction of Industrial Hygiene (IH). IH will monitor pumping operations and designate hearing protection if needed.
(X) Electrical Hazards Describe: Wet locations	HSP 15.00	Ensure GFCI protection in wet locations per HSP 15.00 Sec. 10.14.
(X) Other: Biological Describe: Snakes, Spiders, Rodents	N/A	Ensure proper foot wear and company issued clothing, leather gloves will be utilized when moving equipment and associated materials

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NOTE

Tasks 1 through 3 describe the 207B South Pond Sludge Transfer Operation
Task 4 describes the decontamination of the Vacuum Trucks.
Tasks 5 through 8 describe the Decanting Operation.
Tasks 9 through 11 describe the Building 788 Clarifier Pond Sludge Transfer Operation
Tasks 12 through 17 describe the 207C Pond Sludge Transfer Operation
Task 18 describes the removal of the cement silos, steel framing and equipment located around the ponds.
Task 19 describes the removal of sand and rock from the 207B Pond
Task 20 describes the transfer of sludge from tank to tank on the 750 Pad
Task 21 describes the final rinse down of 207C Pond
Task 22 describes the transfer of salt sludge from the vacuum tanker into metal crates on the 750 Pad
Task 23 describes the transfer of salt sludge from the metal crate into tanks on the 750 Pad

TABLE 3-1 RADIATION AND NON-RADIOLOGICAL CHEMICAL HAZARD CONTROL BY TASK

Sections of Table 3-1 which are not applicable to this task should be left blank.

TASK #	TASK TITLE	HWA
1	207B Pond Sludge Transfer Equipment Preparation	Pond 207 B South

3-1.1 RADIOLOGICAL POSTINGS REQUIRED	(X) See RWP
(X) Radiation Work Permit Required for Access	( ) Very High Radiation Area
(X) Dosimeter Badge	( ) Self Contained Breathing Apparatus
(X) Radiological Controlled Area	( ) Respirator Ready for Use
(X) Enter Only at Step-Off Pad	( ) Full-Face With Charcoal/HEPA Cartridges
(X) No Consumables	( ) Supplied Breathing Air
( ) White or Visitor Coveralls	( ) Air-Line Respirators
( ) Shoe Covers	( ) Airborne Radioactivity Area
(X) Whole Body Monitoring	( ) Respiratory Protection Required
( ) Radiation Area	(X) Dose Rate Ranges (tents only)
( ) High Radiation Area	

3-1.2 RADIOLOGICAL MONITORING REQUIRED	FREQUENCY	TYPE	EQUIPMENT
ROUTINE CONTAMINATION SURVEY	Daily	Alpha, Beta/Gamma, Fixed and Removable	Ludlum 12-1A Eberline SAC-4 Eberline BC-4
ROUTINE RADIATION SURVEY	Quarterly	Gamma	Victoreen 450-G
CONTINUOUS MONITORING	Continuous Air Monitoring	Alpha	Portable air sampler Lapel sampler Eberline SAC-4

3-1.3 ENGINEERING OR ADMINISTRATIVE CONTROLS EMPLOYED	DESCRIBE
( ) Local Exhaust Ventilation	N/A

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TABLE 3-1 RADIATION AND NON-RADIOLOGICAL CHEMICAL HAZARD CONTROL BY TASK

Sections of Table 3-1 which are not applicable to this task should be left blank.

TASK #	TASK TITLE	HWA
22	Removal of Excess Brine form the Vacuum Tanker	RCRA Unit #25

3-1.1 RADIOLOGICAL POSTINGS REQUIRED	(X) See RWP
(X) Radiation Work Permit Required for Access	( ) Very High Radiation Area
(X) Dosimeter Badge	( ) Self Contained Breathing Apparatus
(X) Radiological Controlled Area	( ) Respirator Ready for Use
(X) Enter Only at Step-Off Pad	( ) Full-Face With Charcoal/HEPA Cartridges
(X) No Consumables	( ) Supplied Breathing Air
( ) White or Visitor Coveralls	( ) Air-Line Respirators
( ) Shoe Covers	( ) Airborne Radioactivity Area
(X) Whole Body Monitoring	( ) Respiratory Protection Required
( ) Radiation Area	(X) Dose Rate Ranges (tents only)
( ) High Radiation Area	(X) Confined Space Entry Permit Required for Access

3-1.2 RADIOLOGICAL MONITORING REQUIRED	FREQUENCY	TYPE	EQUIPMENT
ROUTINE CONTAMINATION SURVEY	Daily	Alpha, Beta/Gamma, Fixed and Removable	Ludlum 12-1A Eberline SAC-4 Eberline BC-4
ROUTINE RADIATION SURVEY	Quarterly	Gamma	Victoreen 450-G
CONTINUOUS MONITORING	Continuous Air Monitoring	Alpha	Portable air sampler Lapel sampler Eberline SAC-4

3-1.3 ENGINEERING OR ADMINISTRATIVE CONTROLS EMPLOYED	DESCRIBE
(X) Local Exhaust Ventilation	Vented tanks
( ) Dilution (General) Ventilation	N/A
( ) Enclosure/Glovebag	N/A
(X) Dust Suppression	Salt Sludge will be kept wet.
(X) Confined Space Entry	Tank section of the vacuum tankers is a Confined Space Area.

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TASK #	TASK TITLE	HWA
22	Removal of Excess Brine form the Vacuum Tanker	RCRA Unit #25

3-1.4 NON-RADIOLOGICAL CHEMICAL MONITORING REQUIREMENTS	ACTION LEVELS			
Contaminant	Type of Real Time Instrument or Analytical Method	Frequency/ Locations	Action Level for 1/2 PEL:	Action Level for PEL:
See Appendix B	See Appendix B	See Appendix B	See Appendix B	See Appendix B

NOTE: See Integrated Sampling Plan, Section 3.2.1 (Real Time Monitoring not applicable)

3-1.5 PERSONAL PROTECTIVE EQUIPMENT:					
Job Duty	Safety Shoes & Safety glasses	Body Covering Type	Glove Type	Respirator Type (Specify cartridge if applicable)	Other (i.e., hard hat, earplugs)
Task 22	(X) yes ( ) no	Saranex coveralls with Tyvek Hood	Nitrile and silver shield (leather as needed)	* Upgrade to GMDH if action level for VOC's is reached **MERSORB if action level for Mercury is reached	Face shield and chemical goggles will be used if full-face is not required.

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TABLE 3-1 RADIATION AND NON-RADIOLOGICAL CHEMICAL HAZARD CONTROL BY TASK

Sections of Table 3-1 which are not applicable to this task should be left blank.

TASK #	TASK TITLE	HWA
23	207C Salt Sludge Transfer Operations	RCRA Unit #25

3-1.1 RADIOLOGICAL POSTINGS REQUIRED	(X) See RWP
(X) Radiation Work Permit Required for Access	( ) Very High Radiation Area
(X) Dosimeter Badge	( ) Self Contained Breathing Apparatus
(X) Radiological Controlled Area	( ) Respirator Ready for Use
(X) Enter Only at Step-Off Pad	( ) Full-Face With Charcoal/HEPA Cartridges
(X) No Consumables	( ) Supplied Breathing Air
( ) White or Visitor Coveralls	( ) Air-Line Respirators
( ) Shoe Covers	( ) Airborne Radioactivity Area
(X) Whole Body Monitoring	( ) Respiratory Protection Required
( ) Radiation Area	(X) Dose Rate Ranges (tents only)
( ) High Radiation Area	

3-1.2 RADIOLOGICAL MONITORING REQUIRED	FREQUENCY	TYPE	EQUIPMENT
ROUTINE CONTAMINATION SURVEY	Daily	Alpha, Beta/Gamma, Fixed and Removable	Ludlum 12-1A Eberline SAC-4 Eberline BC-4
ROUTINE RADIATION SURVEY	Quarterly	Gamma	Victoreen 450-G
CONTINUOUS MONITORING	Continuous Air Monitoring	Alpha	Portable air sampler Lapel sampler Eberline SAC-4

3-1.3 ENGINEERING OR ADMINISTRATIVE CONTROLS EMPLOYED	DESCRIBE
(X) Local Exhaust Ventilation	Vented tanks
( ) Dilution (General) Ventilation	N/A
( ) Enclosure/Glovebag	N/A
(X) Dust Suppression	Salt Sludge will be kept wet.

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TASK #	TASK TITLE	HWA
23	207C Salt Sludge Transfer Operations	RCRA Unit #25

3-1.4 NON-RADIOLOGICAL CHEMICAL MONITORING REQUIREMENTS	ACTION LEVELS			
Contaminant	Type of Real Time Instrument or Analytical Method	Frequency/ Locations	Action Level for 1/2 PEL:	Action Level for PEL:
See Appendix B	See Appendix B	See Appendix B	See Appendix B	See Appendix B

NOTE: See Integrated Sampling Plan, Section 3.2.1 (Real Time Monitoring not applicable)

3-1.5 PERSONAL PROTECTIVE EQUIPMENT:					
Job Duty	Safety Shoes & Safety glasses	Body Covering Type	Glove Type	Respirator Type (Specify cartridge if applicable)	Other (i.e., hard hat, earplugs)
Task 22	(X) yes ( ) no	Saranex coveralls with Tyvek Hood	Nitrile and silver shield (leather as needed)	* Upgrade to GMDH if action level for VOC's is reached **MERSORB if action level for Mercury is reached	Face shield and chemical goggles will be used if full-face is not required.

JOB SAFETY ANALYSIS FOR POND SLUDGE REMOVAL

BASIC OPERATION	HAZARD	SAFETY MEASURES
10. Connect hoses to storage tanks	10. Falls, slipping, personnel injury while climbing ladder	10. Personnel inspect ladders prior to usage. Employees must follow HSP 22.02 and ANSI Standard A14.7-1991 Section 6 and 8 guidelines for proper ladder usage and maintenance.
	10a. Injury to back or extremities while lifting hoses	10a. A back support device can be worn when connecting hoses.
	10b. Hand injury from fittings	10b. Personnel are required to wear silver shield and leather gloves while performing operations.
	10c. Personnel contamination from radioactive or hazardous chemical material	10c. Proper PPE shall be worn according to the posted RWP and as specified in Table 3-1.5. All items and personnel exiting the controlled area shall be monitored for contamination . A portable safety shower/eyewash shall be located within 100' of the operation.
11. Pumping sludge from metal crate or tanker to storage tank	11. Falls from ladder while monitoring tank	11. Personnel inspect ladders prior to usage. Employees must follow HSP 22.02 and ANSI Standard A14.7-1991 Section 6 and 8 guidelines for proper ladder usage and maintenance.
	11a. Personnel injury from pressurized lines	11a. Fittings shall be checked for secure position and hoses shall be inspected for leaks.
	11b. Personnel contamination from radioactive or hazardous chemical material	11b. Proper PPE shall be worn according to the posted RWP and as specified in Table 3-1.5. All items and personnel exiting the controlled area shall be monitored for contamination . A portable safety shower or eyewash shall be located within 100' of the operation.
	11c. Overhead equipment and personnel	11c. Hard hats shall be worn when working on or around overhead hazards.

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JOB SAFETY ANALYSIS FOR POND SLUDGE REMOVAL

BASIC OPERATION	HAZARD	SAFETY MEASURES
16. Final Rinse Down of 207C Pond (cont.)	16a. Personnel injury from slipping on the slope of the pond.	16a. Caution shall be exercised when working around the slope of the pond. A full body safety harness with a tag line (held by WS support person) shall be worn when on the slope of the berm.
	16b. Environmental contamination with radioactive or hazardous material.	16b. Hoses shall be kept within the bermed area during setup, shutdown and operation. Lines shall be drained back into the pond. Hoses and equipment shall be free of visible sludge material and monitored by an RCT before being transferred to the storage area. All spills outside the bermed area shall be reported to supervision. All reportable spills (one pint or one pound) shall also be reported to the Shift Superintendent and Radiological Protection Section manager. Minimize the spread of contamination as directed by supervision.
17. Sludge Tank to Tank Transfer	17. Falls, slipping, personnel injury while climbing ladder	17. Personnel inspect ladders prior to usage. Employees must follow HSP 22.02 and ANSI Standard A14.7-1991 Section 6 and 8 guidelines for proper ladder usage and maintenance.
	17a. Injury to back or extremities while removing or replacing the manway cover	17a. When shoveling sand and rock into the half-crate, use correct lifting techniques. A back support device can be worn when removing or replacing the manway cover.
	17b. Personnel contamination from radioactive or hazardous chemical materials	17b. Proper PPE shall be worn according to the posted RWP and as specified in Table 3-1.5. All items and personnel exiting the controlled area shall be monitored for contamination. A portable safety shower/eyewash shall be located within 100' of the operation.
18. Operation of the high pressure sprayer	18. Injury to personnel while using the sprayer.	18. When using the high pressure sprayer, follow the manufacturer's directions for safe operation of the sprayer.

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4.0 (continued)

REQUIRED TRAINING	TASK NUMBER								
	19	20	21	22	23				
Building Indoctrination # 788, 750 Pad	A	A	A	A	A				
General Employee Training #019-235-01	A	A	A	A	A				
Nuclear Material Safeguards #038-597-01	A, B, C	A, B, C	A, B, C	A, B, C	A, B, C				
Hazard Communication #019-750-01	A	A	A	A	A				
Nuclear Criticality Safety #023-415-01	A, B, C	A, B, C	A, B, C	A, B, C	A, B, C				
Radiation Worker Level 1 #023-480-01	B	B	B	B	B				
Radiation Worker Level 2 #023-482-01	C	C	C	C	C				
Respirator Indoctrination #056-284-01	A, C	A, C	A, C	A, C	A, C				
Respirator Fit #056-284-02	A, C	A, C	A, C	A, C	A, C				
24 Hour OSHA #018-691-02	B	B	B	B	B				
40 Hour OSHA #018-691-03	A	A	A	A	A				
8 Hour OSHA Refresher #018-691-05	A	A	A	A	A				
8 Hour OSHA Supervisor #018-691-01	X	X	X	X	X				
RCRA CBT #023-435-01	A	A	A	A	A				
RCRA OJT #018-442-01	A	A	A	A	A				
Beryllium Operations #056-286-01	X	X	X	X	X				
Waste Generator Non-PA #067-285-02	X	X	X	X	X				
Waste Generator PA #067-285-01	A	A	A	A	A				
Other: Waste Generator PA Qual #067-291-01	A	A	A	A	A				
Other: Hearing Conservation #071-400-01	X	X	X	X	X				
Other: Quality Assurance	X	X	X	X	X				
Other: Health & Safety	A, B, C	A, B, C	A, B, C	A, B, C	A, B, C				
Other: Emergency Plan	A, B, C	A, B, C	A, B, C	A, B, C	A, B, C				

A-Items required for entry into HWA
B-Items required for controlled area entry (No hands on work)
C-Items required for controlled area entry (Hands on work)
X-Items required by specific job classification

4.0 (continued)

REQUIRED TRAINING	TASK NUMBER								
	19	20	21	22	23				
Decon Facility Training # 019-865-01	N/A	N/A	N/A	N/A	N/A				
DOT Hazmat Employee Training #023-865-01	X	X	X	X	X				
Confined Space Training #068-741-01	N/A	N/A	N/A	X	N/A				
Other: OO-788-02 207B South Pond Sludge Transfer Operations	N/A	N/A	N/A	N/A	N/A				
Other: OO-788-03 Decant Operations	N/A	N/A	N/A	N/A	N/A				
Other: OO-788-04 WS Decontamination Operations	X	X	X	X	X				
Other: OO-788-07 Salt Buster Rinse Down	N/A	N/A	N/A	N/A	N/A				
Other: OO-788-08 207C Pond Sludge Transfer Operations	N/A	N/A	N/A	N/A	N/A				
Other: OO-788-09 Building 788 Clarifier Pond Sludge Transfer Operations	N/A	N/A	N/A	N/A	N/A				
Other: OO-788-11 207B Pond Sludge Tank to Tank Transfer	N/A	X	N/A	N/A	N/A				
Other: OO-788-12 207C Pond Final Rinse Down and Sludge Removal	N/A	N/A	X	N/A	N/A				
Other: OO-788-05 207B South Pond Sludge Wash Down	X	N/A	N/A	N/A	N/A				
Other: OO-WSD-009 207C Salt Sludge Transfer Operations	N/A	N/A	N/A	N/A	X				
Other: Walsh Procedure: Removal of Excess Brine from the Vacuum Tanker				X	N/A				

A-Items required for entry into HWA
B-Items required for controlled area entry (No hands on work)
C-Items required for controlled area entry (Hands on work)

4.0 (continued)

REQUIRED TRAINING	TASK NUMBER								
	19	20	21	22	23				
Decon Facility Training # 019-865-01	N/A	N/A	N/A	N/A	N/A				
DOT Hazmat Employee Training #023-865-01	X	X	X	X	X				
Confined Space Training #068-741-01	N/A	N/A	N/A	X	N/A				
Other: OO-788-02 207B South Pond Sludge Transfer Operations	N/A	N/A	N/A	N/A	N/A				
Other: OO-788-03 Decant Operations	N/A	N/A	N/A	N/A	N/A				
Other: OO-788-04 WS Decontamination Operations	X	X	X	X	X				
Other: OO-788-07 Salt Buster Rinse Down	N/A	N/A	N/A	N/A	N/A				
Other: OO-788-08 207C Pond Sludge Transfer Operations	N/A	N/A	N/A	N/A	N/A				
Other: OO-788-09 Building 788 Clarifier Pond Sludge Transfer Operations	N/A	N/A	N/A	N/A	N/A				
Other: OO-788-11 207B Pond Sludge Tank to Tank Transfer	N/A	X	N/A	N/A	N/A				
Other: OO-788-12 207C Pond Final Rinse Down and Sludge Removal	N/A	N/A	X	N/A	N/A				
Other: OO-788-05 207B South Pond Sludge Wash Down	X	N/A	N/A	N/A	N/A				
Other: OO-WSD-009 207C Salt Sludge Transfer Operations	N/A	N/A	N/A	N/A	X				
Other: Walsh Procedure: Removal of Excess Brine from the Vacuum Tanker				X	N/A				

A-Items required for entry into HWA
B-Items required for controlled area entry (No hands on work)
C-Items required for controlled area entry (Hands on work)
X-Items required by specific job classification

7.0 DECONTAMINATION PLAN

HSP 18.02, Personnel Contamination Control Requirements for Radiological Controlled Areas, describes requirements for decontamination. The objective of decontamination is to remove hazardous substances (chemical or radiological) from workers and equipmen if they come into contact with hazardous substances, to assure compliance with DOE Order 5480.11, Radiological Operating Instructions, and OSHA standard 1910.120, and to preclude the occurrence of related adverse health effects. This chapter specifies decontamination techniques for applicable areas identified in Table 1-1.

7.1 DECONTAMINATION PROCEDURES AND LOCATION

The decontamination process shall take place within the RCA, if applicable (or outside of the contaminated area) in an area identified as the CRZ which consists of the following items:

Barrier to prevent unauthorized traffic through the area
Step off pad, decontamination rooms, and ancillary decontamination equipment
Designated entry and exit to prevent cross contamination

NOTE

Tasks 1 through 3 describe the 207B South Pond Sludge Transfer Operation
Task 4 describes the decontamination of the Vacuum Trucks.
Tasks 5 through 8 describe the Decanting Operation.
Tasks 9 through 11 describe the Building 788 Clarifier Pond Sludge Transfer Operation
Tasks 12 through 17 describe the 207C Pond Sludge Transfer Operation
Task 18 describes the removal of the cement silos, steel framing and equipment located around the ponds.
Task 19 describes the removal of sand and rock from the 207B Pond
Task 20 describes the transfer of sludge from tank to tank on the 750 Pad
Task 21 describes the final rinse down of 207C Pond
Task 22 describes the transfer of salt sludge from the vacuum tanker into metal crates on the 750 Pad
Task 23 describes the transfer of salt sludge from the metal crate into tanks on the 750 Pad

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These items are described in the following table:

Task #	Type of Barrier (door, tape, etc.)	Decontamination Equipment	Decontamination Steps
1.	Yellow and magenta rope.	Portable Eye Wash/Shower Station Paper wipes Decontamination Solution Nitrile or Viton Gloves Plastic Bags	1. Walk to edge of pond 2. Wash down personnel 3. Wipe down personnel 4. Monitor personnel 5. Remove contaminated PPE 6. Exit step-off area 7. Shower out at T-750E
2.	Yellow and magenta rope.	Portable Eye Wash/Shower Station Paper wipes Decontamination Solution Nitrile or Viton Gloves Plastic Bags	1. Walk to edge of pond 2. Wash down personnel 3. Wipe down personnel 4. Monitor personnel 5. Remove contaminated PPE 6. Exit step-off area 7. Shower out at T-750E

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22.	Yellow and magenta rope.	Portable Eye Wash/Shower Station Paper wipes Decontamination Solution Silver shield and leather gloves Plastic Bags Attach additional pages if necessary	1. Enter step-off pad 2. Rinse off at portable eye wash/shower station and wash with decontamination solution 3. Remove contaminated PPE 4. Monitor personnel 5. Exit step-off area, if solution has come into contact with skin report to Occupational Health 6. In an emergency contact Fire Department 7. In a non-emergency shower out at T-750F
23.	Yellow and magenta rope.	Portable Eye Wash/Shower Station Paper wipes Decontamination Solution Silver shield and leather gloves Plastic Bags Attach additional pages if necessary	1. Enter step-off pad 2. Rinse off at portable eye wash/shower station and wash with decontamination solution 3. Remove contaminated PPE 4. Monitor personnel 5. Exit step-off area, if solution has come into contact with skin report to Occupational Health 6. In an emergency contact Fire Department 7. In a non-emergency shower out at T-750F

All employees leaving a contaminated area shall be appropriately decontaminated for the suspected contaminants. The decontamination layout is shown in Appendix C, Figure 11-1.

The extent of decontamination will be dependent on the level of contamination.

Workers in Level D PPE should rinse or wipe boots before leaving contaminated area. Doffing procedures must be performed in the order listed on Page 7-8 to minimize the potential for personnel contamination during the doffing activity.

Health and safety procedures at the Decontamination Facility will comply with the HASP for Operation of Decontamination Facilities, Protective Area Decontamination Facility, prepared by Woodward-Clyde.

Reusable decontaminateable PPE includes: hip waders, and/or rubber boots.

Reusable products are chemically compatible with the chemical constituents in the ponds and the clarifier as documented in the ASTM Recommended List of Liquid and Gaseous Chemicals for Evaluating Protective Clothing Materials in Testing Programs. Reusable products will be monitored for radiological contaminants and cleaning solution analyses shall be conducted for the first three days of operations and weekly thereafter as a minimum, or more frequently as requested by IH. Contaminants analyzed for will include contaminants of concern. If physical degradation of the PPE is observed, contaminated PPE has come into contact with the skin and/or PPE cannot be decontaminated, then the PPE shall be disposed of as low-level mixed waste. The absence of radiological contamination is defined in HSP 18.10, Release of Property/Waste for Conditional and Unrestricted Use, as per DOE Order 5480.11, and measured with radiation survey instruments capable of detecting Alpha and Beta/Gamma radiation at these levels.

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